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Hymenoptera Orientalis, or Contributions to a knowledge of the Hymenoptera of the Oriental Zoological Region. By P. Cameron. Communicated by John Boyd, Esq.

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PART II.

NYSSONIDÆ.

GORYTES.

I. *Eyes not converging beneath.*

(a) *Anal nervure received distinctly before the origin of the cubital nervure in the posterior wings.*

1. GORYTES ORNATUS.

*Gorytes ornatus*, Smith, *Cat. Hym.* IV., 371, 5,<sup>1</sup> Handlirsch, *Sitz. d. Kais. Akad., Wien*, XCVII., 443, 58.<sup>2</sup>  
Northern India,<sup>1</sup> Burmah.<sup>2</sup>

Unknown to me.

(b) *Anal nervure received after the origin of the cubital in the hinder wing.*

2. GORYTES ORIENTALIS (Plate IX., fig. 14 head, 14<sup>a</sup> antenna).

*Gorytes tricolor*, Smith, *Trans. Ent. Soc.*, 1875, 40. (Nec. Cresson.)

*Gorytes orientalis*, Handlirsch, *Sitz. d. Kais. Akad., Wien*, XCVII., 5, 57, 114.

A very variable species, especially as regards the amount of black, red, and yellow on the head and thorax. The eyes are almost parallel, of moderate size, reaching a little below the base of the clypeus and with moderately large facets; the antennæ with the ♀ stout, thickened towards the apex; the third joint about one-fourth longer than the fourth;

in the ♂ nearly the same relative length and with joints 10—13 hollowed beneath. There is a longitudinal keel on the mesosternum, and there are two perpendicular and one wider and shorter oblique furrows on the mesopleuræ. The first and second transverse cubital nervures are curved; the second cubital cellule at the top is somewhat less than the space bounded by the two recurrent nervures. In the hind wings the anal nervure is received shortly behind the origin of the cubital nervure. The head and thorax bear scattered punctures, those on the head being finer than those on the thorax. The basal area of the median segment is clearly limited by a crenulated furrow; it is broader than long; has two central keels, united by transverse bars; and there are five stout keels on either side of these. The apex of the median segment is hollowed in the centre, and transversely striolated. The basal area varies from black to red. The petiole is moderately broad at the base, and becomes gradually broader towards the apex. Fore tarsi stoutly spined.

Barrackpore (*Rothney*). Several specimens.

### 3. GORYTES PICTUS.

*Gorytes pictus*, Smith, *Cat. Hym. Ins.* IV., 365, 22;  
Handlirsch, *Sitz. d. Kais. Akad. d. Wissen., Wien*,  
XCVII., 537.

I suspect that this is only a variety of *Orientalis*; but inasmuch as Smith's description gives no information as to what group *G. pictus* belongs, this can only be decided by an examination of the type.

*Hab.* Madras.

## II. *Eyes converging beneath.*

### 4. GORYTES AMATORIUS (Pl. IX., Fig. 15 head 15<sup>a</sup> an tenna).

*Gorytes amatorius*, Smith, *Trans. Ent. Soc.*, 1875, 39;<sup>1</sup>  
Handlirsch, *Sitz. d. Kais. Akad. d. Wissen., Wien*,  
XCVII., 536.

Antennae subclavate, the flagellum thin at the base ; the third joint more than twice the length of the fourth. Eyes large, reaching to the base of the mandibles, distinctly converging there, and coarsely faceted. Ocelli almost forming a triangle ; separated from each other by twice the length that the posterior are from the eyes. Clypeus moderately convex, the apex margined, almost transverse. Mesosternum without a keel. Basal area of the median segment smooth, shining, glabrous, and limited by a narrow indistinct furrow. Petiole nodose, clearly defined from the second segment, which, at the extreme base, is equal in breadth to it, but from there it becomes much wider. Abdomen elongate, longer than the head and thorax united. Pygidial area clearly limited, covered with short, depressed, coarse, bristle-like hairs, and apparently longitudinally striolated ; the sides margined. The second cubital cellule at the top is not very much shorter than the third ; and more than the length bounded by the recurrent nervures ; the first transverse cubital nervure is angled, near the middle. Fore tarsi and tibiae spinose.

Barrackpore<sup>1</sup> (*Rothney*). Bombay (*Wroughton*).

## NYSSON.

Of the 64 described species of this widely known genus, only two have hitherto been recorded from our region.

### 1. NYSSON BASALIS.

*Nysson basalis*, Smith, *Cat. Hym. Ins.* IV., 355, 11;<sup>1</sup>  
 Handlirsch, *Sitz. d. Kais. Akad. d. Wissen.*, XCVII., 401.  
*Hab.* India.<sup>1</sup>

### 2. NYSSON DORIAE.

*Nysson Doriae*, Gribodo, *Bull. Soc. Ent. Ital.* XVI. 277,<sup>1</sup>  
 Handlirsch, *l. c.*  
*Hab.* Sarawak. Borneo.<sup>1</sup>

3. NYSSON RUGOSUS (Pl. IX., Fig. 13 head, 13<sup>a</sup> antenna)

*Niger, linea pronoti, linea abdominis segmentibus 1—2, maculaque scutelli, flavis, abdominis basi femoribusque posticis rufis; alis fuscis.* Long. 5—7 mm.

Antennæ stout, covered with a white microscopic pile; the third joint not much longer than the fourth; the last conical at apex, longer than the preceding. Head strongly punctured; densely covered with silvery, inclining to golden on the vertex, pubescence. Cheeks margined; an elongated wedge-shaped projection on the front, immediately above the antennæ; eyes slightly sinuated above; apex of clypeus bi-dentate in the middle. Mandibles yellow at base, rufous at the apex. Thorax rugosely punctured, covered with a whitish pubescence; pronotum slightly raised in the middle above, the centre shining, impunctate, glabrous; the sides, looked at from above, curved. Scutellum much more strongly rugose than the mesonotum; metanotum not very clearly defined from it, rounded and narrowed behind; median segment aciculate, shining, bearing four keels; the lateral angles acute, the spine stout, longer than broad. Mesopleuræ convex, densely pilose, strongly punctured, clearly projecting beyond the metapleuræ. Abdomen sparsely covered with shallow distinctly separated punctures, the apical two segments more strongly than the others; pygidial area longitudinally rugosely punctured. Ventral segments punctured like the dorsal; the basal margined laterally; broadly projecting in the middle; the centre of the projection stoutly bicarinate, and its sides are also keeled. Hypopygium aciculate at base and in the centre; the rest punctured, the apex bluntly bi-denticulate. The basal abdominal segment is entirely red, except a yellow line at the apex; the apex of the second segment is yellow; the third at the base is more or less red; the basal two ventral segments are red. Legs (especially the tibiæ and tarsi) densely covered with whitish

pile; lateral edges of the coxæ, the knees and apices of the tibiæ more or less yellowish; the hind femora entirely, and the four anterior more or less underneath, rufous; the hind tibiæ more or less rufous beneath. The second cubital cellule is longly pedunculated; the second recurrent nervure is almost interstitial; tegulæ red.

The tibiæ are not spined, nor the clypeus keeled; the metanotum is not bilobate. In some specimens there is a small yellow mark on the sides of the third and fourth abdominal segments.

*Hab.* Barrackpore (*Rothney*).

4. NYSSON ERYTHROPODA, *sp. nov.* (Pl. IX., Fig. head 18, 18<sup>a</sup> antenna).

*Niger, argenteo pilosus, capite et thorace rugoso-punctatis; antennis subtus pedibusque rufis, linea pronoti, tegulis, linea scutelli maculisque abdominis segmentis 1—2 flavis; alis fuscis.* Long. 6.5 mm.

Agrees closely with *rugosus*; differs in having the antennæ rufous beneath, the legs entirely red, except the base of the coxæ; the base of the abdomen is not red; the yellow line on the pronotum is continuous; the basal joint of the antennæ is more globular, thicker, and shorter; the second is not much shorter than the third; the eyes are more curved, the ocelli more raised; the mesopleuræ at its hinder edge has a stout keel interrupted in the middle, and prolonged beneath near to the sternal groove; the hypopygium is more sharply convex in the middle; the second cubital cellule is longer, being as long, on the lower side, as the third, whereas in *rugosus* it is clearly shorter.

The clypeus is bi-dentate at the apex; the mandibles and palpi obscure rufous; there are four keels on the median segment; its sides are densely covered with pale pubescence; its spine is blunt; the white pile on the tibiæ is very dense, almost hiding the color.

*Hab.* Barrackpore.



## BEMBICIDÆ.

## STIZUS.

## 1. STIZUS BLANDINUS.

*Larra blandina*, Smith, *Cat. Hym. Ins.* IV., 346.<sup>1</sup>

*Hab.* India.<sup>1</sup>

## 2. STIZUS CORNUTUS.

*Larra cornuta*, Smith, *Ann. Mag. Nat. Hist.*, 1873, p. 403.<sup>1</sup>

*Hab.* Bombay.<sup>1</sup>

## 3. STIZUS DELESSERTII.

*Stizus Delesserti*, Guérin, *Icon. Règ. Anim.* III., 439.

*Larra Delesserti*, Smith, *Cat. Hym. Ins.* IV., 342.<sup>1</sup>

*Hab.* Pondicherry.<sup>1</sup>

## 4. STIZUS FASCIATUS.

*Larra fasciata*, Fab., *Ent. Syst. Supp.* 253; *Syst. Piez.*,

221, 13; Klug, *Symb. Phys.* Dec. V. t. 46 f. 14?

Smith, *Cat. Hym. Ins.* IV., 342.<sup>1</sup>

*Stizus fasciatus*, Dahlbom, *Hym. Eur.* I., 133.

*Hab.* Barrackpore, Tranquebar,<sup>1</sup> Northern India,<sup>1</sup> Ethiopia.<sup>1</sup>

## 5. STIZUS MELANOXANTHA.

*Larra melanoxantha*, Smith, *Cat. Hym. Ins.* IV., 346.<sup>1</sup>

*Hab.* India.<sup>1</sup>

## 6. STIZUS MELLEUS.

*Larra mellea*, Smith, *Cat. Hym. Ins.* IV., 346.<sup>1</sup>

*Hab.* India.<sup>1</sup>

## 7. STIZUS NUBILIPENNIS.

*Larra nubilipennis*, Smith, *Cat. Hym. Ins.* IV., 347.<sup>1</sup>

*Hab.* India.<sup>1</sup>

## 8. STIZUS PRISMATICUS.

*Larra prismatica*, Smith, *Jour. Linn. Soc.*, 1857, 103, 1.<sup>1</sup>

*Stizus prismaticus*, Sichel, *Hym. d. Novara Reise*, 142.<sup>2</sup>

*Hab.* Borneo;<sup>1</sup> Sambelong.<sup>2</sup>

## 9. STIZUS REVERSUS.

*Larra reversa*, Smith, *Cat. Hym. Ins.* IV., 349.*Hab.* Sumatra.<sup>1</sup>

## 10. STIZUS RUFESCENS.

*Larra rufescens*, Smith, *Cat. Hym. Ins.* IV., 349.11. STIZUS ORIENTALIS, Cam., *infra*.*Hab.* Barrackpore.

## 12. STIZUS VESPIFORMIS.

*Spheg vespiiformis*, Fab., *Spec. Ins.* I., 447, 23.*Tiphia vespiiformis*, Fab., *Mant. Ins.* I., 1781.*Larra vespiiformis*, Fab., *Ent. Syst.* II., 220, 1,; *Syst. Piez.*, 219, 1.*Stizus vespiiformis*, Dahlbom, *Hym. Eur.* I., 154; St.-Fargeau, *Nat. Hist. Hym. Ins.*, III., 297.*Hab.* Madras, Punjaub, Northern India.STIZUS ORIENTALIS, *sp. nov.**Brunneus, flavo-variegatus, facie flava; antennis pedibusque rufis; alis flavo-hyalinis.* ♀ Long. 24 mm.

Eyes converging towards the apex; ocelli in a triangle; the anterior in a pit; the posterior separated from each other by almost twice the distance they are from the eyes; a broad furrow runs down from the anterior. Clypeus convex; labrum rounded broadly at the apex. A dark brownish stripe runs through the hinder ocelli to the eyes; the anterior ocellus has a similar brownish spot; and there is an elongated mark over each antennæ. The head is closely and finely rugosely punctured. Mandibles clear yellow at the base, shining, impunctate; palish yellow. Scape punctured, covered with a short silvery pile; the third joint is as long as the fourth and fifth united. Thorax finely rugosely punctured; densely covered with soft woolly white hair; median segment at apex semiperpendicular, deeply and widely sulcated, and transversely



striated. The pronotum above and laterally, and the tubercles are yellowish ; the mesonotum in front narrowly and more or less of the mesopleuræ are blackish ; the apex of median segment also inclining to blackish. Abdomen minutely punctured ; a large ovate macula on the sides of the second segment ; the greater part of the third and fourth, and the edges of the fifth, clear yellow ; the third and fourth ventral segments broadly clear yellow at the sides. Pygidial area punctured. The second cubital cellule is very narrow at the top, not being much more than half the length of the part bounded by the recurrent nervures, and a little more than the space between the second recurrent and the second transverse cubital nervures ; the first recurrent nervure is received a little beyond the middle of the cellule. Legs with the tibiæ and tarsi densely covered with a microscopic white pile and stoutly spinose.

#### STIZUS RUFESCENS, Smith.

A specimen from Barrackpore is no doubt this species—at least it agrees with Smith's description so far as it goes. It is very closely allied to *S. orientalis* ; from which, apart from the difference in the coloration of the body, it may be known by the eyes being wider separated, and not, or hardly, converging towards the clypeus ; the ocelli are more widely separated from the eyes, and not so much from each other ; the radial and second and third cubital cellules are occupied by a deep black cloud : the second cubital cellule is wider at the top : the first recurrent nervure is received before the middle : the apex of the median segment is not so deeply or so widely sulcated ; and the wings have a much more yellowish tinge, the nervures and base of stigma being lighter, almost rufous. The length of my specimen is fully one inch.

STIZUS REVERSUS, *Smith*. (Pl. X. f. 1 antenna ♂.).

This species (it is named by Smith in Mr. Rothney's

collection) is common and widely distributed. It shows some variation in the quantity of yellow on the abdomen, as do also the legs, some examples having the tibiæ and tarsi entirely yellow.

### BEMBEX.

Of this well-known genus, only four species are known from our region.

#### 1. BEMBEX LUNATA.

Fabricius, *Syst. Piez.*, 224, 10 ; Dahlbom, *Hym. Eur.* I, 492, 33 ; Smith, *Cat. Hym. Ins.* IV, 328, 44.<sup>1</sup>

*Hab.* Tranquebar,<sup>1</sup> Tirhoot (*Rothney*), Bombay (*Wroughton*).

Seemingly the rarest of the species.

#### 2. BEMBEX TREPANDA.

Dahlbom, *Hym. Eur.* I, 181 ; Smith, *Jour. Linn. Soc.*, 1869, 366.<sup>1</sup>

*Hab.* Barrackpore (*Rothney*) ; Bombay (*Wroughton*) ; Gilgit (*Mus. Cal.*) ; Ceylon (*Rothney*), Celebes,<sup>1</sup> Gilolo.<sup>1</sup>

#### 3. BEMBEX SULPHURESCENS.

Dahlbom, *Hym. Eur.* I, 180 ; Smith, *Jour. Linn. Soc.*, 1869, 328.

*Hab.* Barrackpore, Tirhoot, Madras (*Rothney*), Punjaub.<sup>1</sup>

#### 4. BEMBEX MELANCHOLICA.

Smith, *Cat. Hym. Ins.*, IV., 328.<sup>1</sup>

*Hab.* China, Sumatra, Borneo, Singapore, Bachian, Celebes, Aru, Salwatty, Morty Islands.<sup>1</sup>

Said by Wallace (*Jour. Linn. Soc.*, 1869, 296) to be common in sandy situations all over the Malay Archipelago.

### PHILANTHIDÆ.

#### PHILANTHUS.

I have only seen one Indian species of this genus, but Smith records six.

## 1. PHILANTHUS ELEGANS.

Smith, *Ann. Mag. Nat. Hist.* XII., 415.*Hab.* Northern India.

## 2. PHILANTHUS NOTATULLUS.

Smith, *Proc. Linn. Soc.* V., 157.<sup>1</sup>*Hab.* Menado.<sup>1</sup>

## 3. PHILANTHUS PULCHERRIMUS.

Smith, *Cat. Hym. Ins.* IV., 469, 5.<sup>1</sup>*Hab.* India.<sup>1</sup>

## 4. PHILANTHUS SULPHUREUS.

Smith, *l. c.* 469.<sup>1</sup>*Hab.* North India.<sup>1</sup>

## 5. PHILANTHUS DEPRDATOR.

Smith, *l. c.* 470.<sup>1</sup>*Hab.* India,<sup>1</sup> Barrackpore (*Rothney*).

## 6. PHILANTHUS BASALIS.

Smith, *l. c.* 473.<sup>1</sup>*Hab.* Ceylon.<sup>1</sup>

## CERCERIS.

1. CERCERIS ALBOPICTA, Smith, *Ann. Mag. Nat. Hist.*  
XII., 412.<sup>1</sup>*Hab.* Bombay.<sup>1</sup>2. CERCERIS BIFASCIATA, Guér., *Icon. Règ. An.* 443,  
Taf. LXXI. f. 9.<sup>1</sup>*Hab.* Bengal.<sup>1</sup>3. CERCERIS DENTATA, Cam. *postea*.*Hab.* Barrackpore (*Rothney*), Poona (*Wroughton*).4. CERCERIS EMORTALIS, Saussure, *Reise Novara, Hym*,  
98.<sup>1</sup> (See *C. humbertiana*.)*Hab.* Ceylon.<sup>1</sup>5. CERCERIS FEROX, Smith, *Cat. Hym. Ins.* IV., 454.<sup>1</sup>*Hab.* Sumatra.<sup>1</sup>

6. CERCERIS FERVENS, Smith, *Ann. Mag. Nat. Hist.* XII.  
411.<sup>1</sup> (See *postea*).  
*Hab.* North India.<sup>1</sup>
7. CERCERIS DISSECTA, Fab.  
PHILANTHUS DISSECTUS, Fab., *Ent. Syst. Supp.* 269.<sup>1</sup>  
*Hab.* India.<sup>1</sup>
8. CERCERIS FLAVOPICTA, Smith, *Cat. Hym. Ins.* IV., 451.  
*Hab.* North India, Barrackpore, Tirhoot, Madras  
(*Rothney*).
9. CERCERIS HILARIS, Smith. *Cat. Hym. Ins.* IV., 452.<sup>1</sup>  
*Hab.* North India,<sup>1</sup> Madras (*Rothney*).
10. CERCERIS HUMBERTIANA, Saussure, *Hym. d. Novara*  
*Reise*, 97.  
*Cerceris rufinodis*, Smith, *Trans. Ent. Soc.*, 1875,  
p. 41.  
*Cerceris viscosus*, Smith, *Trans. Ent. Soc.*,<sup>1</sup> 875, 40.  
*Hab.* Ceylon, Barrackpore.
11. CERCERIS INSTABILIS, Smith, *Cat. Hym. Ins.* IV., 452;<sup>1</sup>  
Saussure, *Hym. d. Novara Reise*, 92.<sup>2</sup>  
*Cerceris velox*, Smith, *Trans. Ent. Soc.*, 1875, 41.  
*Hab.* China; Barrackpore (*Rothney*), Poona (*Wroughton*),  
Ceylon.<sup>2</sup>
12. CERCERIS INTERSTINCTA, Fabricius.  
*Philanthus interstinctus*, Fab., *Ent. Syst. Supp.*, 269;  
*Syst. Piez.*, 306.<sup>1</sup>  
*Hab.* India.<sup>1</sup>
13. CERCERIS MASTOGASTER, Smith, *Cat. Hym. Ins.* IV.,  
453.<sup>1</sup>  
*Hab.* Madras.<sup>1</sup>
14. CERCERIS NOVARÆ, Saussure, *Hym. d. Novara Reise*,  
92, Taf. IV., f. 54.<sup>1</sup>  
*Hab.* Ceylon,<sup>1</sup> Bombay, Barrackpore (*Rothney*), Poona  
(*Wroughton*).

15. CERCERIS NEBULOSA, Cam. *postea*.  
*Hab.* North Khasi (*Goodwin-Austin*).
16. CERCERIS ORIENTALIS, Smith, *Cat. Hym. Ins.* IV., 54.  
*Hab.* Madras,<sup>1</sup> Barrackpore.
17. CERCERIS PENTADONTA, Cam. *postea*.  
*Hab.* Barrackpore (*Rothney*).
18. CERCERIS PICTIVENTRIS, Dahlbom, *Hym. Eur.* I., 498.<sup>2</sup>  
*Cerceris pictiventris*, Guerstacker, *Monatsch. Berl. Akad.*  
*d. Wiss.*, 509; Peters, *Reis. Mozambique*, V., 474.<sup>1</sup>  
*Hab.* West Africa,<sup>1</sup> Java.<sup>2</sup>
19. CERCERIS PULCHRA, Cam. *postea*.  
 Barrackpore (*Rothney*), common, Poona (*Wroughton*).
20. CERCERIS ROTHNEYI, Cam., *postea*.  
*Hab.* Barrackpore (*Rothney*).
21. CERCERIS SEPULCRALIS, Smith, *Proc. Linn. Soc.* II.,  
 107.<sup>1</sup>  
*Hab.* Borneo.<sup>1</sup>
22. CERCERIS SULPHUREA, Cam. *postea*.  
*Hab.* Bombay (*Rothney*).
23. CERCERIS TRISTIS, Cam. *postea*.  
*Hab.* Barrackpore, Tirhoot (*Rothney*). Common.
24. CERCERIS TETRADONTA, Cam. *postea*.  
*Hab.* Poona (*Wroughton*).
25. CERCERIS VIGILANS, Smith, *Cat. Hym. Ins.*, IV., 454.  
*Hab.* Madras,<sup>1</sup> Barrackpore (*Rothney*). Common; Poona  
 (*Wroughton*).
26. CERCERIS VISCHNU, Cam. *postea*.  
*Hab.* Barrackpore (*Rothney*), Poona (*Wroughton*).  
*A. Clypeus in ♀ not porret.*  
*Cerceris viligans*, Smith (Pl. X., f. 2, a, b).

The ♂ only is described by Smith. The ♀ has the clypeus convex, ending in a rounded point before the apex, from which point it goes obliquely to the labrum, ending on

either side in a blunt tooth, the teeth forming with the apical point a triangle. Eyes almost parallel. Ocelli not forming a triangle, the hinder separated from the eyes by the length of the second and third antennal joints united ; and from each other by not very much more than the length of the second joint. The third antennal joint is fully one half longer than the fourth, and not much shorter than the first. There is a short blunt triangular tooth on the hinder edge of the mesosternum. The punctuation of the head is moderate ; on the thorax much coarser and rugose ; the metanotum is rugose ; the triangular area on the median segment is large, transversely striated, and indistinctly furrowed down the middle. The pygidial area is opaque, irregularly punctured ; twice broader at the base than at the apex, the contraction taking place beyond the middle ; the apex rounded, the sides punctured, the hair fringe long, dense, and fulvous. Hypopygium finely punctured, opaque ; the incision triangular, reaching a very little beyond the middle.

In the ♂ the clypeus is equally convex, bluntly keeled in the middle, the apex broadly rounded ; the triangular area on the median segment is longitudinally striolate, the striæ wide apart ; the pygidial area is of equal width and is punctured irregularly.

In both sexes the petiole is wider than long, sparsely punctured ; the sculpture on the other segments is weak and becomes almost obsolete on the fifth segment.

*CERCERIS ROTHNEYI*, *sp. nov.* (Pl. X., f. 3, *a*, *b*).

Ferruginous, the vertex for the greater part black ; the fourth and apical segments of abdomen dark piceous ; the scape beneath, the cheeks, clypeus, basal half of mandibles, tegulæ, a line on the pronotum, tubercles, scutellum, metanotum, the base of second abdominal segment, the third segment, except on semi-circular space at the base, the fifth



segment, the basal two ventral segments and the penultimate on either side and the legs, yellow ; the femora lined with fuscous above. Wings clear hyaline, the apex infuscated, the stigma and nervures fuscous. Body covered closely with whitish pubescence, which is especially thick on the head. The punctuation of moderate intensity ; the trigonal area of median segment smooth, impunctate, and there is an impunctate space on the sides of the median segment and on the metapleura. Clypeus moderately convex, the apex transverse, with a short blunt tooth at either end. Hinder ocelli separated from the eyes by the length of the third antennal joint, and by a slightly less distance from each other. Eyes a little diverging beneath, the orbits behind clearly margined. The scutellum is smooth, with a border of widely set apart punctures ; the metanotum is impunctate. The furrow down the centre of the trigonal area is shallow ; the margin of the area is crenulated. Petiole a little longer than wide. Pygidial area elongate, narrow, rounded at the apex ; the base narrower than the apex ; the top closely and finely transversely rugose ; the hair fringe white ; hypopygium not incised. Antennæ blackish above ; the flagellum obscure rufous beneath. Second cubital cellule with the peduncle not much shorter than the width of the cellule itself ; the first recurrent nervure is received in the basal third ; the second a little beyond the apex of the cellule, and almost interstitial. Length 10 mm.

This species comes nearest to *C. instabilis* ; but may easily be known from it by the clypeus not being incised ; by the punctuation being not so strong, especially on the scutellum and median segment ; by the smooth, not rugosely punctured, trigonal area, by the narrower, longer, straighter, pygidial area, which in *instabilis* is wider at the base than at the apex, it bearing also large punctures, and by the shorter second cubital cellule.

CERCERIS INSTABILIS, *Smith*, (Pl. X. f. 4—4 *a, b*).

A common and variable species, especially as regards the amount of black on the thorax and abdomen. The ♂ is *C. velox*, *Smith*.

CERCERIS PULCHRA. (Pl. X. f. 5, *a, b*.)

Black, the scape beneath, the cheeks, clypeus, mandibles except at apex, two lines on the pronotum, tegulæ, meta-notum, a mark on the base of the second abdominal segment, the third segment except the base in the centre ; the fifth segment, the second ventral segment laterally, and the legs, yellow ; the petiole and second abdominal segment ferruginous, except the yellow and a black mark on the latter. Clypeus a little gaping at the apex, which is black and incised. Eyes parallel. Hinder ocelli separated from the eyes by near the same distance they are from each other. Body covered with longish pale fulvous pubescence, almost golden on the face ; the punctuation is strong and coarse ; the scutellum strongly punctured. Trigonal region rugose, and with some stout keels ; the central furrow deep. Petiole distinctly longer than broad ; pygidial area elongate, gradually narrowed towards the apex, which is almost transverse, but with the edges rounded ; the incision in the hypopygium is a little longer than wide, rounded at the base, and becoming wider towards the apex ; the top of the pygidial area is irregularly punctured, without a hair fringe, and covered with long pale pubescence. The coxæ are black at the base ; the hinder femora are for the greater part black ; the hind tibiæ are fuscous on the outer side at the apex. Antennæ rufous ; the third joint curved, twice the length of the second and longer than the fourth. The wings are suffused with fuscous ; the apex broadly smoky ; the second cubital cellule has the peduncle not much shorter than the cellule ; the first recurrent nervure is received in the basal fourth ; the

second a little beyond the second transverse cubital nervure ; the nervures fuscous.

The ♂ has the clypeus at the apex broadly rounded ; the black on the second abdominal segment is more extended ; the fifth segment is black and the sixth yellow ; the pygidial area is punctured strongly, narrowed a little at the base, and with the apex transverse. Length 7—8 mm.

This species is represented by numerous examples of both sexes, and it appears to be tolerably constant in coloration. *Vischnu* may be known from it by the black face, by the truncated clypeus, by the absence of yellow on the thorax and on the second abdominal segment ; *dentata* by the teeth on the thorax.

CERCERIS VISCHNU. (Pl. X., Fig. 7—7*a*, *b*.)

Black ; the scape, the apex of the clypeus, the antennal ridge, a mark on the cheeks, a small mark on the sides of the pronotum, the apex of the third abdominal segment, a mark in the centre of the fifth, the four anterior tibiæ in front, the four anterior tibiæ, the base of the hinder, pale yellow ; the femora beneath and the hind coxæ rufous ; the petiole and base of second segment ferruginous. Clypeus with the apex projecting, but not sharply and with a slight incision. Ocelli in a curve ; the posterior separated from each other by more than the length of the third antennal joint and by its length from each other. The face covered with a silvery pubescence, the rest of the body with pale hair ; the punctuation close, rugose. Trigonal area not very clearly defined, rugosely punctured. Petiole a little longer than broad ; pygidial area rugose, slightly narrowed towards the apex, which is bluntly rounded ; the hair fringe dense, obscure fulvous ; the incision in hypopygium a little longer than broad, the base rather sharply pointed. Wings clear hyaline, the apex smoky ; the second cubital cellule longer than broad ; the recurrent nervure received shortly

before the middle. The antennæ have the flagellum pale fulvous beneath ; the eyes are parallel.

The ♂ has the clypeus broadly truncate at the apex in the middle, and with the lateral laminae pale ; the clypeus wants the yellow mark ; the petiole is black ; otherwise as in ♀ except that it is the 6th abdominal segment which is marked with yellow. Length ♀ nearly 9 mm ; ♂ 7 mm.

A distinct species.

What appears to be this species has a small yellow mark at the base of the abdomen, the petiole beneath and laterally and the base of the second segment are rufous and there is a small white mark on the base of the latter.

*CERCERIS TRISTIS*, *sp. nov.* (Pl. X. f. 7, *a*, *b*).

Eyes parallel. Ocelli not forming a triangle ; the posterior separated from the eyes by nearly the length of the second and third joints united and from each other by less than the length of the third. Middle lobe of the clypeus convex, gaping at the apex, which is broadly and narrowly incised. Punctuation of head close and rather strong ; the face densely covered with silvery hair. Head below the antennæ and the orbits for the length of the scape above the base of the antennæ, and the mandibles, except at the apex, yellow. Extreme apex of clypeus black. Thorax strongly punctured, more coarsely on the pleuræ ; the tegulæ, a line on either side of the pronotum, and metanotum, yellow. Trigonal area obscurely aciculated, the sides punctured irregularly ; the central furrow crenulated. Petiole longer than broad, distinctly bulging out at the sides ; the segments with a moderately strong punctuation ; a mark broader than long on the base of the second segment ; the apex of the third segment (narrowed in the centre) and a narrower belt on the fifth, also narrowed in the centre, yellow. Pygidial area elongated, narrower at base than at apex, the latter bluntly rounded ; the surface irregularly rugose. Incision in hypopygium broad, a little longer

than broad, gaping at the apex, the base broadly rounded. Lateral hair fringe sparse, silvery. Legs black; the apex of coxæ and trochanters; the greater part of the femora beneath; and the tibiæ and tarsi, except the apices of the posterior, yellow.

The ♂ has the clypeus slightly convex; the apex projecting in the middle, black and with a short broad, blunt tooth in the middle. The coloration is as in the ♀ except that the fifth segment is entirely black and the sixth nearly entirely yellow. Pygidial area of equal width throughout; depressed before the apex, shining and sparsely punctured. Length 7—9 mm.

May be known from *C. novaræ* by the median segment wanting yellow marks; by there being only a central basal yellow mark on the second abdominal segment; by the legs being broadly black at the base, by the third joint of the flagellum being distinctly longer than the fourth; by the central lobe of clypeus being roundly convex and gaping at the apex, &c.

#### CERCERIS FERVENS, *Smith*.

It is probable that this will prove to be identical with *C. novaræ*. So far as the description of the ♀ goes the only difference is that in *fervens* there are two lines on the scutellum; but in both the females of *Novaræ* I have examined, there is a minute yellow mark on either side of it. Smith's description of the ♂ differs moreover, it having the sixth segment (not the fifth) yellow marked; and apparently the median segment wants the yellow marks.

Smith, I may add, named, in Mr. Rothney's collection, the ♂ of the species I have called *Vischnu, fervens*; but it does not agree with the description of *fervens*; and my specimen is certainly not the ♂ of *Novaræ*. It is possible that Smith has assigned the wrong ♂ to his *fervens*.



CERCERIS NOVARÆ, *Sauss.*, (Pl. X. f. 8, *a*, *b*).

Clypeus flat, slightly convex in the middle ; the apex projecting a little beyond the lateral pieces ; the apex truncated, but with the sides rounded. Eyes a little converging beneath. Ocelli not forming a triangle, the anterior being too much in front of the posterior ; the posterior separated from the eyes by a little more than the length of the third antennal joint, and by its length from each other. Front and vertex strongly punctured ; the face and clypeus with shallow punctures. The face, oral region, antennal keel and the orbits to the length of the scape above the base of the antennæ ; the mandibles, except at the apex, and a spot behind the eye near the top, yellow. The vertex is sparsely pilose. Thorax more strongly punctured than the head ; the punctures larger and wider apart, the pleuræ more coarsely punctured than the mesonotum. Trigonal area impunctate, furrowed down the centre, the furrow crenulated. Two marks on the pronotum, a spot on the mesopleura, tegulæ, a small mark on the sides of the scutellum, the metanotum and two large oblong marks on the median segment, yellow. Mesopleural furrow, wide, deep. Apex of median segment gradually rounded above, the apical part rather abrupt, and with two deep, shining, somewhat triangular depressions at the extreme apex. Petiole longer than broad, slightly bulging out at the middle, coarsely punctured. The other segments are also strongly punctured. Pygidial area an elongated oval, narrowed at base and apex, the surface irregularly rugose. Hypopygial incision not reaching to the middle of the segment, longer than broad, rather acutely pointed at the apex. The lateral hair fringe dense, golden-fulvous. There is a broad band on the base of the second segment, the whole of the third segment, except a somewhat semi-circular black mark in the middle at the base and a similar amount of black on the fifth, yellow. The legs are yellow,



except the apical half of the posterior femora and tibiæ. The scape is yellow; the flagellum fulvous beneath; the third and fourth joints are sub-equal.

The ♂ is similarly coloured, except that the mesopleuræ want the yellow mark and the scutellum is entirely yellow. Length 7—10 mm.

CERCERIS WROUGHTONI, *sp. nov.* (Pl. X. f. 9, *a*, *b*).

Black, shining, thorax, and head punctured, the abdomen impunctate, smooth; the clypeus, the cheeks to above the base of the antennæ, the antennal ridge, the scape beneath, a large broad line behind the eyes, a line on the pronotum, scutellum, metanotum, two small marks on the middle of the median segment, the petiole, except a broad stripe down the centre, the base of the second and third segments all round, the edge of the fourth, and a large mark in its centre, a similar mark on the fifth; and the basal three ventral segments, for the greater part, clear yellow; the flagellum beneath and a large mark on either side of the median segment rufo-fulvous; legs fulvous, the anterior four in front and the hinder femora in part, pale yellow. Wings fuscous, the apex much darker, the stigma fulvous. Antennæ with the third joint about one quarter longer than the fourth. Clypeus flat, the apex black, roundly and broadly incised; its sides and the cheeks bearing a silvery pubescence. Ocelli forming almost a triangle, the posterior separated from the eyes by more than the length of the third antennal joint; and by about its length from each other. The pubescence on the head is longish and pale; the punctuation moderately strong, and all the punctures deeply separated. Thorax moderately strongly punctured, covered with a pale pubescence; the pronotum above saddle-shaped; the transverse furrow in the mesopleura wide, deep and complete; scutellum sparsely punctured; trigonal area smooth, impunctate, furrowed down the middle; meta-

pleuræ aciculate, the base with a few stout striæ. Petiole wider than long, bulging out in the centre; sparsely and finely punctured; the fifth segment also sparsely punctured; the others obscurely aciculate. Pygidial area large, rounded at apex, not narrowed at the base; transversely striolated; incision in hypopygium not reaching to the middle, a little longer than wide, rounded at the base. Hinder tibiæ very stoutly and closely spined. Second cubital cellule longer than broad, rounded above, above shortly pedunculated; the recurrent nervure received shortly before the middle.

The ♂ has the face from the top of the antennal ridge entirely yellow; the clypeus flattish; the apex rounded, almost transverse; the lateral plates incised; there is a small yellow mark below the tubercles; there are two large yellow marks on the median segments; the fourth segment is almost entirely yellow; the fifth has a narrow yellow border on the apex, the sixth is almost entirely yellow; the sides of the apical segment are yellow: the legs are clear yellow; the hinder femora are marked with black, the hind tibiæ are broadly black at the apex and the hind tarsi are fuscous; otherwise coloured as in ♀. Pygidial area with large punctures, the apex almost transverse. Length 11 mm.

Easily recognised by the smooth impunctate abdomen.

#### CERCERIS PICTIVENTRIS, *Dbm.*

This species is no doubt identical with *C. novaræ*, at least that species agrees with the rather laconic description given by Dahlbom—Abdomen nigrum, flavo-fulvo—aut albo-fasciatum . . . petiolus nigrum . . . segmenta ventralia plurima flavo-fasciata aut maculata—Corpus subparvum . . . abdomen fasciis citrinis pleurumque 3 raro pluribus; ♀ segmento ventrali valvutæ proximo ad marginem apicalem intergerrimo.

Schletterer (*Zool. Jahrb.* II., p. 499) quotes doubtfully *C. pictiventris* of Gerstaecker (*Monatsb. Berl. Akad. Wiss.*, 509)

as a synonym. Gerstaecker's species was from West Africa Dahlbom's from Java.

CERCERIS DENTATA, *sp. nov.* (Pl. X., f. 10, *a*, *b*.)

Black ; the clypeus, cheeks, antennal ridge, mandibles except at the apex, a spot behind the eyes, an interrupted line on the pronotum, two marks on the scutellum, two marks on the mesopleuræ, metanotum, two elongated marks on the median segment, two small marks on the petiole, a line on the apex of the second and third abdominal segments, the fifth, except at the base, the femora beneath and the tibiæ and tarsi, clear yellow ; the petiole, coxæ, and femora, ferruginous ; wings hyaline ; very slightly infuscated at the apex. Clypeus depressed, the apex transverse. Eyes a little diverging ; ocelli not forming a triangle, the posterior separated from the eyes by the length of the third antennal joint and from each other by the length of the fourth. Body covered with a white pubescence, silvery on the face ; the punctuation moderately strong. The mesosternum in the middle projects into two stout teeth ; the posterior being the larger. Trigonal area elongated, reaching nearly to the apex of the segment, much longer than broad, smooth, impunctate, a fovea on either side of the furrow. Scutellum almost impunctate. Mesopleuræ rugosely punctured, convex, bulging out above ; metapleuræ finely and closely rugose at the base, the apex with large punctures. Petiole hardly longer than broad. Pygidial area narrowed at base and apex, bulging out gradually in the middle, the apex above black, the rest dull rufous, and punctured ; the hair fringe dense, obscure white. Ventral surface with second and third segments banded with pale yellow ; covered with long white hair ; the incision in apical segment reaching near to the middle, rounded at base. Wings shorter than usual ; the second

cubital cellule twice longer than wide; the recurrent nervure received in the basal third. Length 8—9 mm.

The spines on the mesosternum separate readily this distinct species.

*CERCERIS SULPHUREA*, *sp. nov.* (Pl. X., f. 11, *a*, *b*).

Sulphureous; the ocellar region and three lines on the mesonotum, sordid rufous; wings clear hyaline, the apex from a little before the end of the radial cellule fuscous, the nervures fuscous; the flagellum of the antennæ pale rufous. Clypeus convex, broadly rounded at the apex. Eyes slightly diverging; posterior ocelli separated from each other by the length of the third and from the eyes by the length of the first antennal joint. The third antennal joint only a little longer than the fourth. Body covered with long white hair; that on the face silvery. Punctuation moderately strong. Trigonal area punctured. Petiole nodose, longer than broad. Pygidial area broad, but longer than broad, punctured, the apex bluntly rounded. Second cubital cellule not much longer than broad; the first recurrent nervure almost interstitial. ♂. Length 8 mm.

*CERCERIS TETRADONTA*, *sp. nov.* (Pl. X. f. 12, *a*, *b*).

Black, closely and rather strongly punctured, the clypeus, the cheeks broadly from near to the top of the antennal ridge, the antennal ridge; scape beneath, the base of the mandibles; two small spots behind the ocelli, a large line behind the eyes, a broad line on the side of the pronotum, a mark on the side of the scutellum, metanotum, two large marks on the sides of the median segment, tegulæ, tubercles, a small spot below them, the sides of the petiole, and a short line on the edges of the other segments and on the edges of the third to fifth ventral segments, whitish-yellow. Ocelli not forming a triangle; the outer separated from the eyes by a little more

than the length of the third antennal joint and by fully its length from each other; eyes a little converging towards the clypeus. Flagellum rufous beneath, fuscous above; the third and fourth joints sub-equal. Clypeus flat, the apex a little projecting and armed with four stout, blunt teeth. Pronotum rounded at the sides and with an oblique slope in front. Mesopleural furrow indistinct. Trigonal area smooth, impunctate, shining; the central furrow narrow, metapleuræ at base strongly striolated; black above; the rest reddish, the extreme apex of the median segment being also reddish. Petiole rufous, broader than long; the base oblique. Pygidial area reticulated; narrowed almost to a point at the base; the apex transverse. Incision in hypopygium not reaching to the middle, longer than broad, rounded at the base. The basal ventral segment is entirely rufous; the others are broadly rufous in the middle. Wings almost hyaline, the apex infuscated; the second cubital cellule arched, receiving the petiole almost in the middle; the recurrent nervure received a little before the middle of the cellule. Legs rufous in front, more or less whitish-yellow beneath; the hind tibiæ fuscous behind, the hind tarsi for the greater part fuscous. Length 6—7 mm.

The ♂ is smaller and similarly colored, but with the yellow marks more reduced; the clypeus slightly convex; the apex transverse, except that a short, not very distinct tooth projects in the middle. The femora are broadly lined with black laterally and above, especially the anterior four.

A well-marked species.

CERCERIS PENTADONTA. (Pl. X., f. 13, *a*, *b*.)

Eyes almost parallel. Ocelli in a triangle, the hinder separated from the eyes by nearly the length of the second and third antennal joints united, and from each other by less than the length of the third. Lobe of clypeus obliquely



projecting, thick, much broader than long, slightly incised at the apex; the apex with five teeth; the central and outer sharply pointed, the other two broader and truncated at the apex. Third antennal joint not much longer than the fourth and not twice the length of the second. The punctuation on the head is close, moderately strong; the pubescence short and sparse. Thorax opaque, aciculate, and bearing widely separated shallow punctures, those on the median segment more widely separated than those on the mesonotum. Triangular area of median segment opaque, finely and closely rugose, channelled down the middle. The oblique furrow on the mesopleura is wide, deep and obliquely striolated; the metapleuræ finely obliquely striolated; median segment short, its apex obliquely and rather abruptly rounded. Petiole longer than broad, dilated slightly in the middle, clearly separated from the second segment, and covered with moderately large punctures. The other segments are similarly punctured, the punctuation becoming sparser towards the apex. Pygidial area opaque, irregularly and slightly reticulated, much narrowed at the base, the apex rounded. Incision on hypopygium extending beyond the middle, rounded at base, of nearly equal width throughout. The flagellum is rufo-fulvous beneath, the inner orbits of the eyes, the antennal tubercle, the pronotum, metanotum, the third abdominal segment, except at apex, and a band occupying the apical half of the fifth segment, rufo-yellow.\* Legs inclining to piccous; the anterior knees, tibiæ and tarsi, yellow in front; the spurs white; the spines blackish. The second recurrent nervure is almost interstitial; second cubital cellule rather shortly pedunculated; the apical nervure longer than the basal. The wings, although, dark smoky throughout, are darker along the radial cellules. Length 8 mm.

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\* I suspect that the rufous tint is caused by cyanide of potassium.



CERCERIS INTERSTINCTA, *Fab.*

What this species may be is rather doubtful. On the whole the description fits best with the ♂ of *humbertiana*, but it differs from it in no mention being made of the two marks on the median segment. With this exception, however, the description, so far as it goes, suits *humbertiana* fairly well.

CERCERIS DISSECTA, *Fab.*

I am quite unable to recognise this species from the description. It may be added that neither Smith nor Schletterer includes this species in their Catalogues.

The description of the Fabrician species are subjoined.

## PHILANTHUS INTERSTINCTUS.

*P. niger flavo varius abdominis segmento primo rufo. Alis apice nigris.*

*Habitat* in India Dom. Daldorff.

Statura et magnitudo *P. ruficornis*, antennæ ferrugineæ articulo primo flavo. Caput flavum vertice nigro. Thorax niger, margine antico, puncto calloso ante, lineis duabus scutelli, macula utrinque sub alis, et subscutello flavis. Abdomen nigrum segmento primo rufo, reliquis apice flavis, ano tamen toto nigro, alæ albæ, anticæ apice nigræ. Pedes flavi geniculis nigris.

## PHILANTHUS DISSECTUS.

*P. niger flavo varius, abdominis basi rufo, macula flava.*

*Habitat* in India Dom. Daldorff.

Praecedente paullo minor, antennæ rufæ, basi flavæ; caput nigrum, labio albo, thorax niger margine antico utrinque lineola, puncto ante alas scutelloque flavis; abdomen nigrum petiolo toto ferrugineo, segmento primo basi ferrugineo, macula flava, secundo quartoque apice imprimis ad latera flavis. Pedes flavi femoribus supra nigris.

*B. Clypeus porret in ♀.*

CERCIRIS ORIENTALIS, *Smith*, (Pl. X., f. 14, *a*, *b*).

The largest of the oriental species. In the only example I have seen the ocelli are in a black patch; and the sternum is also black. The posterior ocelli are separated from the eyes by fully the length of the second and third joints united; and from each other by the length of the fourth. Trigonal area broad, coarsely aciculate. Petiole broader than long. Pygidial area narrowed a little at base and apex; the apex rounded; the hair-fringe dense pale fulvous; incision in hypopygium reaching near to the middle; there is a tuft of hairs on the apex of the segment at the sides. The second cubital cellule forms almost a semi-circle; and receives the recurrent nervure near the middle.

CERCERIS NEBULOSA, *sp. nov.* (Pl. X., f. 15, *a*, *b*.)

Eyes slightly diverging beneath. Ocelli hardly forming a triangle; the posterior separated from the eyes by fully the length of the third antennal joint, and by the length of the fourth from each other. Clypeus flat, the middle at the apex turned outwardly, widely semi-circularly incised and separated from the lateral pieces by projecting beyond them. Head closely rugosely punctured; the cheeks and lateral margin of clypeus densely covered with silvery white hair. Mesonotum closely and finely longitudinally rugosely punctured; the pleuræ coarsely rugose; trigonal area finely rugose. Abdomen twice the length of the thorax, and narrower than it; the petiole not much broader than long; the punctuation of the segments not very strong; the pygidial area closely rugose, hardly narrowed at the base; the apex transverse: the incision on hypopygium longer than broad; rounded at the base, dilated at the apex. The third joint of antennæ longer and thinner than the fourth. The cheeks, clypeus, orbits broadly above the base of the antennæ; a spot behind the eyes near the top, a band on

the pronotum, scutellum, post scutellum, a narrow band on the base of the second abdominal segment, the extreme apex of the petiole, the apical half of the third segment and the extreme apex of the fourth, reddish-fulvous. Legs black; the anterior tibiæ and tarsi obscure testaceous in front. Length 15 mm.

CERCERIS HUMBERTIANA (Pl. X., f. 16, *a*, *b*.)

In the ♂ the eyes are parallel. The hinder ocelli are separated from them by a little more than the length of the third antennal joint, and by nearly the same distance from each other. The middle of the clypeus projects considerably, the projection almost truncated at the apex, except that there is a waved projection in the middle; the sides of the projection are obliquely curved. The lateral hair fringe is dense and golden. The third antennal joint is a little longer than the fourth and attenuated at the apex. The puncturing on the top of the head is very deep and coarse, on the thorax it is not quite so strong. The trigonal area of median segment is smooth, shining, and impunctate, and has very narrow and indistinct furrow down the middle. Pygidial area bearing large oval punctures; it is a little narrowed and truncated at the apex and has there a golden pile. The petiole is broader than long and rugosely punctured. The other segments bear large, separated punctures of moderate length.

May be known from the ♂ of *instabilis* by the clypeus of the latter not projecting so squarely in the middle; by the trigonal area being coarsely longitudinally striolated; by the petiole being much narrower, being clearly longer than broad; by the yellow band on the vertex, &c.

Apparently a common species.

CERCERIS EMORTUALIS.

I should say, judging how very variable *humbertiana* is, that this will prove to be a variety of the latter.

CERCERIS HILARIS, *Smith* (Pl. X., f. 17, a, b.)

The clypeus is longer than broad, and becomes gradually broader towards the apex; the five basal joints of the flagellum of the antennæ are rufous, and the remaining joints are rufous beneath; the third joint is slightly curved, and about one-third longer than the fourth; the trigonal area is coarsely longitudinally striolate; the hypopygium is transversely rugose, and narrowed gradually towards the apex, and rounded there. Comes nearest to *C. flavopicta*, but is larger, has the clypeus emarginate, the trigonal area striolate, &c.

## PSENIDÆ.

1. PSEN RUFIVENTRIS, *sp. nov.*

*Niger, mandibulis, pedibus abdomineque rufis; alis clare hyalinis, nervis nigris.* ♀. Long. 9 mm.

Antennæ closely covered with a pale microscopic pile; becoming gradually thickened towards the apex; the scape curved, bare; as long as the third joint, which is about a quarter longer than the fourth. Head shining, impunctate above; the front and clypeus closely and finely punctured. Clypeus broadly convex, the apex depressed, gaping and transverse in the middle. Ocelli in pits; a short transverse furrow behind them; the hinder separated from the eyes by about the length of the fourth antennal joint and by a somewhat greater distance from each other. Eyes parallel, coarsely faceted. Mandibles shining, somewhat punctured at the base. The face, cheeks, base of front and of clypeus densely covered with golden hair; the outer orbits of the eyes more sparsely with silvery. Thorax opaque on the mesonotum, the rest shining, impunctate. The apex of median segment irregularly reticulated, laterally striolated. Basal area of median segment semi-circular; depressed at the apex, and bearing some stout keels and with a straight, finely aciculated, shallow furrow in the

centre. Pronotum with a slight depression in the middle. The sternum, median segment and pleuræ sparsely covered with long silvery hair. Petiole curved, longer than the thorax. Abdomen shining, impunctate, glabrous. Pygidial area shining, convex, keeled laterally. Legs covered somewhat thickly with white, glistening hair. The second cubital cellule above (the nervures straight) is a little shorter than the space bounded by the first recurrent and second transverse cubital nervures and less than half the length of the third cellule; the recurrent nervures are received about the same distance behind the transverse cubitals. The antennæ are pale fulvous; the mandibles at the base pale testaceous, black at the apex; the legs (except the coxæ) pale ferruginous; the posterior femora and tibiæ a little infuscated; abdomen piceo-ferruginous, infuscated in the middle.

*Psen erraticus*, Smith (*Proc. Linn. Soc.* IV., p. 85), from Celebes agrees closely in coloration with the species here described; but no details beyond color are given, and in that respect it differs from *rufiventris* in having the nervures and stigma pale ferruginous, not deep black as in our species.

*Hab.* Madras (*Rothney*).

*PSEN CLAVATUS*, *sp. nov.*

Smaller than *P. rufiventris* (8 mm. only) differing from it in the eyes being rounded in front, diverging at apex, in the antennæ being distinctly clavate; with the third joint not twice the length of the second (in *rufiventris* it is three times) and not much longer than the fourth; in the third joint being nearly twice the length of the penultimate; in there being no furrow behind the ocelli; in the base of the median segment being not depressed, and with three keels down the central part,—one central and two lateral keels; the abdomen apart from the black petiole, is entirely rufous; the second cubital cellule is narrowed almost to a point at the top: the head and thorax are more distinctly aciculate,



and there are two shallow furrows on the mesonotum, only the four anterior knees, tibiæ and tarsi are testaceous, this being also the case with the hinder. ♀.

*Hab.* Poona (*Wroughton*).

3. *PSEN ORIENTALIS*, *sp. nov.*

*Niger, nitidus, alis fere hyalinis, nervis nigris*, ♀. Long. 11 mm.

Antennæ distinctly thickened towards the apex, the flagellum closely covered with a whitish pubescence, the scape thickened, shorter than the third joint, which is twice the length of the fourth. Front and vertex shining, impunctate, sparsely pubescent; the head below the antennæ covered densely with white depressed hair. Ocellar regions raised, the ocelli not in pits. Eyes converging perceptibly towards the bottom. Clypeus almost as in *P. rufiventris*. Thorax shining, impunctate; the basal area of median segment not so clearly defined as in *P. rufiventris*; the keels less distinct; and the apex of the segment is much less distinctly reticulated, and there is a large depression in the centre. Petiole on lower side bearing long white hair. Pygidial area flat above, not convex, the sides keeled, the base impunctate, the rest finely and closely punctured; the sides covered with longish fulvous hair. Legs covered with white hair; the hind spurs and claws ferruginous. The second cubital cellule at the top is shorter than the space bounded by the first recurrent and second transverse cubital nervures; the first recurrent nervure is received in the basal third of the cellule, the second is almost interstitial.

Apart from the difference in coloration, *P. orientalis* may be known from *P. rufiventris* by the third antennal joint being twice the length of the fourth, by the less clearly hyaline wings, by the interstitial second recurrent nervure, &c.

*Hab.* Madras (*Rothney*).



## CRABRONIDÆ.

## CRABRO.

I. *Abdomen petiolated.*

1. CRABRO FLAVOPICTA, Smith, *Cat. Hym. Ins.* IV., 391 4.  
*Hab.* Northern India.<sup>1</sup>
2. CRABRO BUDDHA Cam.  
*Hab.* Tirhoot, Bombay, Madras.
3. CRABRO ODONTOPHORA, Cam. *postea*.  
*Hab.* Barrackpore.

II. *Abdomen sessile.*

4. CRABRO ARDENS, Cam., *postea*.  
*Hab.* Barrackpore (*Rothney*).
5. CRABRO ARGENTATUS, Saint-Fargeau, *Ann. Soc. Ent. Fr.* III., 710, 11 ; *Nat. Hist. Hym. Ins.* III. 194, 1 ;<sup>1</sup> Dahlbom, *Hym. Eur.* I., 385, 255.  
*Hab.* India.<sup>1</sup>
6. CRABRO FAMILIARIS, Smith, *Proc. Linn. Soc.* II., 106, 1.<sup>1</sup>  
*Hab.* Borneo<sup>1</sup> (*Wallace*).
7. CRABRO FUSCIPENNIS, St.-Fargeau, *Ann. Soc. Ent. Fr.* III., 710, 11 ; *Nat. Hist. Hym. Ins.* III., 113 ;<sup>1</sup> Dahlbom, *Hym. Eur.* I., 385, 255.  
*Hab.* India.<sup>1</sup>
8. CRABRO INSIGNIS, Smith, *Cat. Hym. Ins.* IV., 422, 145.<sup>1</sup>  
*Hab.* India.<sup>1</sup>
9. CRABRO NANUS, Cam. *postea*.  
*Hab.* Barrackpore.
10. CRABRO RUGOSUS, Smith, *Proc. Linn. Soc.* II., 106, 2.<sup>1</sup>  
*Hab.* Borneo<sup>1</sup> (*Wallace*).

*Hab.* Northern India.<sup>1</sup>

CRABRO ODONTOPHORA, *sp. nov.* (Pl. X. f. 20, *a*, *b*).

Antennæ covered with a microscopic white pile, black, the scape lined with yellow beneath ; the third joint nearly twice the length of the fourth. Head with a plumbeous hue, shining, the front, cheeks and clypeus densely covered with silvery pubescence, the outer orbits of the eyes on the lower side with silvery and the vertex with a pale fuscous hair. Ocelli in a triangle, the hinder separated from the eyes by nearly the length of the third and from each other by nearly the length of the fourth antennal joint. A shallow furrow runs down the front from the vertex ; the front is only slightly excavated ; the clypeus is bluntly keeled, the apex projecting in the middle, almost truncated, but with the sides rounded. Mandibles yellow, black at the apex, covered sparsely with white, glistening hair. Thorax with a plumbeous hue, shining, very minutely punctured on the mesonotum and scutellum ; the pronotum narrowed in the middle in front and with a minute furrow on the top ; the pleural furrows crenulated ; median segment elongate ; shining, covered with long white hair ; furrowed down the middle, the centre at base finely aciculate, the sides finely rugose ; metapleuræ shining, not hollowed, almost impunctate. Abdomen shining, impunctate ; the petiole hollowed at the base above ; a small mark on either side at its apex ; a large mark on the sides of the third and fourth ; the apex broadly rounded, almost truncated, but with the sides rounded ; pygidium punctured, hollowed in the centre. Legs : hind femora and tibiæ clavate ; the latter with a broad furrow on the apical half on the outer side, the former with a broad furrow in the middle on the lower side ; basal joint of anterior tarsi twisted, dilated at the base, the dilatation forming a blunt tooth ; hind calcaria reaching to the middle of metatarsus ; hind coxæ at the base projecting in a stout

curved tooth ; metatarsus curved at the base beneath and densely pilose, longer than all the other joints united. Hypopygium curved, dilated at the base and armed there with two stout, curved, sharp teeth. The recurrent nervure received considerably before the middle of the radial cellule. Length 7—8 mm.

CRABRO ORIENTALIS, *sp. nov.*

Scape and second joint of the antennæ clear straw yellow ; the other joints black, fuscous beneath, covered with a white microscopic pile ; the third joint a very little longer than the fourth. Vertex opaque, finely and closely rugose ; covered with a short fuscous-black pubescence ; ocelli in a curve, the hinder separated by about the length of the second and third antennal joints united from the eyes, and by a slightly less distance from each other. Front deeply excavated, margined at the top, closely covered with a silvery pile ; clypeus slightly convex and with a fine keel down the middle ; densely covered with golden pubescence. Mandibles shining, clear yellow, black at the apex. Thorax opaque, alutaceous. The furrow at the base of scutellum crenulated ; scutellum longitudinally striolated (at least on the black part), rounded behind ; metanotum coarsely longitudinally striolated. Median segment rugosely punctured, irregularly obliquely striolated ; the centre furrowed (the furrow at base narrow). Mesopleuræ opaque, alutaceous, the furrows crenulated ; metapleuræ finely transversely striated. Petiole fully three-fourths of the total length of the abdomen, the apex nodose, opaque, the base shining, finely punctured. Abdomen opaque, the apical segment punctured. There is a squarish mark on either side of the apex of the petiole ; a broad elongated mark on the side of the second segment ; a small mark on the side of the third, a broad band on either side of the fourth,

narrowed on the inner side and the whole of the fifth segment, yellow. Legs covered with a whitish pubescence; clear yellow; the coxæ and femora to near the apex, and a line on the tibiæ, black; the outer spur of hind tibiæ nearly as long as the metatarsus, broadly dilated. The recurrent nervure is received in the middle of the radial cellule.

May be known from *C. buddha* by there being no shining fovea along the inner orbits of the eyes; by the scutellum being longitudinally striolated; by the petiole and second abdominal segment being marked with yellow, and by the fuscous wings. Length 8 mm.

CRABRO ARDENS, *sp. nov.*

Head shining, finely punctured, less strongly on the vertex than on the front; there is a minute furrow between the ocelli and a shorter one on the outer side; the ocelli hardly form a triangle, the hinder being too close together. Frontal furrow moderately deep and wide. Cheeks and clypeus densely covered with silvery hair; the outer orbits on the lower side not so thickly haired; clypeus keeled in the centre; the sides and apex yellow; mandibles yellow, black at extreme apex. Thorax shining, more strongly punctured than the front, shining; shortly pilose; the sternum densely covered with short pale pubescence; mesopleural furrow wide, crenulated; there is a small round fovea on the posterior lower edge of the mesopleuræ. Pronotum above distinctly raised, transverse, the sides of the raised part oblique; the hinder part of the prothorax separated by a wide and deep depression from the anterior. Scutellum finely punctured, the sides narrowed behind, margined; the basal depression crenulated. Median segment covered with depressed pale hairs; the basal area bounded by a curved furrow, and with some longitudinal striæ; the apical fovea longish, wide; metapleuræ striated.

Abdomen shining, very finely punctured; the sides and apex covered with whitish pubescence; petiole shining, impunctate, depressed at the base; twice longer than wide; pygidial area almost truncate, rounded laterally. Legs at base and tibiæ and tarsi closely covered with a pale pubescence, the anterior broadly bright yellow beneath; the tarsi fuscous-black. Posterior spurs thick, dilated, pale, fully three-fourths of the length of the metatarsus. Antennæ rather densely and longly pilose; the third joint not much longer than the fourth; the scape punctured, yellow in the centre beneath; the base of flagellum fuscous on the lower side. The recurrent nervure is received considerably before the middle of the radial cellule. The tubercles in front and the greater part of the propleuræ are bright yellow.

The ♀ has the oral region and mandibles not yellow; the latter are at the apex brownish; the palpi yellowish; there is a narrow line on the pronotum; the propleuræ are for the greater part black; the front legs are hardly yellow in front; the pygidial area very shining, depressed in the middle, foveate at the apex and indistinctly punctured at the base; the scape is yellow beneath, and the third joint is longer in proportion to the fourth than in the ♂, besides being thinner at the base. Length 5 mm.

CRABRO NANUS, *sp. nov.*

Head minutely punctured on the front; ocelli in a curve, in pits; a minute furrow in their middle behind; frontal depression wide, deep, shining, a broad keel in the centre; clypeus not carinate, but with the centre broadly projecting at the apex; densely covered with silvery pubescence, as are also the cheeks; outer orbits of the eyes distinctly margined, and bearing a silvery pubescence; the front and vertex bearing a longish blackish pubescence; mandibles yellowish, black at the apex. Scape of antennæ yellow

beneath, the flagellum obscure brownish beneath, stout, pilose; the third joint narrow at base, dilated at the apex, not much longer than the fourth. Thorax shining, above very obscurely punctured; the pleuræ, if anything, more distinctly. Pronotum in the middle retreating, the sides broadly rounded, the top not raised, and having a gradually rounded slope to the base; mesopleural suture wide, crenulated, the fovea distinct. There is an indistinct furrow in the centre of the mesonotum, and two foveæ towards the base. Median segment short, the base dilated, the rest with a sharp oblique slope; the basal area irregularly reticulated; the centre is very slightly hollowed, but with the sides of the hollow margined by keels, which unite at the apex; the outer edges are also keeled, the keels converging beneath; metapleural shagreened, and bearing some irregular striae. Abdomen shining, covered almost all over with a pale pubescence; the basal segment, becoming gradually dilated to the apex, which is slightly shorter than the total length; the apical segments rather strongly punctured; the pygidial area rounded at the apex; the ventral segments punctured at the apex. Legs pilose; the long spur of the hind tibiæ reaches to the middle of the metatarsus. The recurrent nervure is received near the middle of the radial cellule. Length  $3\frac{1}{2}$  mm.

DASYPROCTUS, *Lep.*

## 1. DASYPROCTUS CEYLONICUS.

*Dasyproctus ceylonicus*, Saussure, *Hym. d. Novara Reise*,  
85, t. 51.

*Hab.* Ceylon.

## OXYBELUS.

1. OXYBELUS AGILIS, Smith, *Cat. Hym. Ins.* IV., 387, 25.<sup>1</sup>

*Hab.* India.<sup>1</sup>

2. OXYBELUS ARGENTEOLINEATUS, Cam. *postea*.

*Hab.* Barrackpore (*Rothney*).



3. OXYBELUS BELLUS, Cam. *postea*.  
*Hab.* Poona (*Wroughton*).
4. OXYBELUS CANESCENS, Cam. *postea*.  
*Hab.* Barrackpore (*Rothney*).
5. OXYBELUS FLAVIPES, Cam. *postea*.  
*Hab.* Barrackpore (*Rothney*).
6. OXYBELUS FULVOPILUSUS, Cam. *postea*.  
*Hab.* Barrackpore (*Rothney*).
7. OXYBELUS INSULARIS, Kohl, *Terméz. Füzetek*. VIII.,  
109.<sup>1</sup>  
*Hab.* Ceylon.<sup>1</sup>
8. OXYBELUS NITIDUS, Cam. *postea*.  
*Hab.* Barrackpore (*Rothney*).
9. OXYBELUS ROBUSTUS, Cam. *postea*.  
*Hab.* Poona (*Wroughton*).
10. OXYBELUS RUFICORNIS, Smith, *Cat. Hym. Ins.* IV.,  
388, 27.<sup>1</sup>  
*Hab.* India.<sup>1</sup>
11. OXYBELUS SABULOSUS, Smith, *Cat. Hym. Ins.* IV., 288,  
28.<sup>1</sup>  
*Hab.* India.<sup>1</sup>
12. OXYBELUS SQUAMOSUS, Smith, *Trans. Ent. Soc.*, 1875,  
38.  
*Hab.* Barrackpore (*Rothney*).
13. OXYBELUS TRIDENTATUS, Smith, *Cat. Hym. Ins.* IV.,  
387, 26.<sup>1</sup>  
*Hab.* India.<sup>1</sup>

A. *Thorax with laminæ.*

OXYBELUS ROBUSTUS, *sp. nov.* (Pl. X. f. 21—21a.)

Black, a line on the pronotum, two marks on the scutellum, the lateral plates, and a band on each side of the

abdominal segments 1—4, white ; legs red, the coxæ, trochanters, four posterior tarsi and the four posterior tibiæ behind, black ; wings clear hyaline. Eyes wide apart, straight, a little diverging beneath. Antennæ dull rufous, the scape more or less fuscous ; the third joint a very little longer than the fourth. Head closely punctured, from a little below the ocelli closely covered with pale silvery hair. Ocelli in a curve, the posterior separated from the eyes by the length of the second, and from each other by the length of the second and third antennal joints united. Apex of clypeus transverse ; mandibles obscure rufous. Thorax shining, punctured, the pleuræ more closely than the mesonotum, sparsely covered with a short silvery pubescence ; the oblique furrow on the mesopleuræ broad and shallow. Scutellum convex, sparsely covered with large round punctures, the centre keeled, but not strongly, the apex incised in the middle. The lateral plates large, curved laterally and ending in a stout, triangular tooth ; the central lamina broader than long, the sides rounded, narrowed at base and apex, the apex with a broad, shallow incision. Abdomen more finely and closely punctured than the thorax ; the ventral surface with the punctuation much sparser ; the segments at the apex narrowly edged with dirty white. Tibiæ and tarsi bearing a silvery white pubescence ; the tibial and tarsal spines white. The recurrent nervure is received almost in the centre of the radial cellule. Length nearly 9 mm.

Most nearly related to *O. squamosus* ; but that species may be known from it by the eyes being rounded, not straight, and meeting much closer together, by the blackish antennæ, by the central lamina being rufous and longer than broad (see Pl. X., f. 24).

OXYBELUS FLAVIPES, *sp nov.*

Head closely punctured, the face, cheeks and front densely covered with golden pubescence ; the clypeus in

the middle, the mandibles and trophi yellow, the tips of the mandibles black, piceous-red before the black. Thorax punctured, closely covered with pale pubescence ; a line on the collar, tubercles, tegulæ, the scutellum, except at the apex, clear stramineous-yellow ; the lateral plates of the metanotum pale yellow. Pronotum rounded, the sides obliquely truncated ; scutellum stoutly keeled down the centre ; the central mucor longer than broad, very slightly and gradually dilated towards the apex, which is acutely and somewhat triangularly, incised ; the lateral plates are large, curved outwardly and ending in a sharply triangular point ; median segment with an oblique slope, finely shagreened ; there is a short furrow below the central mucor ; two keels run from the lateral plates, becoming united near the apex of the segment ; and two other keels run from the sides ; metapleuræ finely longitudinally shagreened. Abdomen shining, closely punctured ; a yellow line on the side of the segments ; pygidial area densely covered with stiff depressed golden-fulvous hairs. Wings clear hyaline, the recurrent nervure quite straight, not oblique, and received before the middle of the radial cellule. Length nearly 5 mm.

*OXYBELUS CANESCENS* *sp nov.* (Pl. X., f. 22.)

Head closely punctured, densely covered with long grey pubescence. Ocelli separated from each other by twice the distance they are from the eyes, which are very slightly diverging towards the clypeus. Mandibles pale yellow, the apex black. Collar projecting in the middle, slightly concave, and with an oblique slope to the head. Thorax densely covered with a greyish pubescence, strongly punctured, the pleuræ almost rugose ; the oblique furrow crenulated ; there is also a longitudinal furrow, and a narrow oblique one runs down from the apex of the fore wings. Lateral laminæ curved, bi-dentate at the apex, the central curved, convex

above, slightly wider at the base, more than twice longer than broad, and incised at the apex. Median segment almost perpendicular, transversely striolated; the central keels not reaching to the apex and forming an elongate triangle, with a smooth ovate fovea at its apex; metapleuræ striated. A line on the pronotum (narrowed in the middle) the tubercles, tegulæ, two large square marks on the scutellum, the metanotum, the lateral laminæ, and the apex of the central mucus, pale yellow. Scutellum keeled down the centre. Abdomen minutely punctured, shining, a large fascia on the first segment, an irregular band, narrowed and interrupted in the middle on the second, and a complete band on the third and fourth segments, pale yellow; pygidial area punctured, covered with stiff fulvous, glistening depressed bristle-like pubescence, and sharply pointed at the apex. Ventral segment with scattered punctures, shining. The recurrent nervure is received considerably before the middle of the radial cellule, and is straight, not oblique. Length nearly 7 mm.

*OXYBELUS FULVOPILOSUS*, *sp nov.* (Pl X., f. 23.)

Head closely punctured. Covered with a fulvous, the clypeus and cheeks sparsely with silvery pubescence. Eyes slightly converging towards the clypeus; margined; the hinder ocelli separated from each other by twice the length they are from the eyes. Clypeus shining, bluntly and distinctly keeled in the middle. Antennæ with the flagellum fulvous beneath; the third joint a little longer than the fourth and attenuated at the base. Thorax closely punctured, covered with a fulvous silvery pubescence, that on the sternum longish. Collar transverse, the sides obliquely truncated; the mesosternal furrows not very distinct; the lateral laminæ of the metanotum bluntly triangular at the apex; the central convex above, nearly twice longer than broad, and somewhat roundly incised at the apex; median

segment with a semi-oblique slope, shagreened, the central keels joining before reaching the apex of the segment and united to the lateral by three keels; the base with some irregular keels; the metapleuræ irregularly striated. Abdomen finely punctured, a large bright yellow macula on the sides of segments one to five, the apical segments punctured, densely covered with stiff rufo-fulvous bristle-like pubescence; the apex rounded. The recurrent nervure is straight and is received a little beyond the basal third of the radial cellule. Length nearly 7 mm.

*B. Thorax without laminæ.*

OXYBELUS BELLUS, *sp. nov.*

Black, closely punctured and covered with a pale fulvous pubescence, a narrow line on the pronotum, the tubercles, a large broad mark below them, the tegulæ in part, a mark on each side of the scutellum, the metanotum, a large mark on the side of the basal two segments, a narrower one on the following two and the legs, clear red; the anterior coxæ black, the four anterior lined with black above, the posterior black, except at the base and apex. Front excavated, densely covered with longish silvery-fulvous hair; this being also the case with the clypeus. Ocelli in a curve, the hinder separated from the eyes by the length of the second antennal joint. Mandibles rufous and yellow, black at the apex. The punctuation on the head is rugose. Thorax strongly punctured; the scutellum with scattered punctures; the metanotum impunctate and without laminæ; median segment reticulated. Abdomen closely punctured; the apical segments covered with longish pale silvery hair; the pygidial area a little longer than broad, rounded at the apex. The anterior tibiæ incline to yellow behind; the legs covered with a short close white pubescence; tibiæ serrate. The eyes are rounded inwardly, converging towards the apex. Wings hyaline, the nervures fuscous; the recurrent nervure

is received slightly beyond the middle of the radial cellule. Tibial spurs slender, curved, reaching to the middle of the metatarsus. Abdominal segments lined with silvery pubescence. Length nearly 8 mm.

May be known from *O. argenteolineatus* and *nitidus* by the reddish legs and by the longer and thinner calcaria.

OXYBELUS NITIDUS, *sp. nov.*

Head smooth, shining, covered with a silvery pubescence, very densely on the clypeus and cheeks, the front excavated in the middle, glabrous. Ocelli in a curve, the hinder separated from each other by only a little greater distance than they are from the eyes. A curved, oblique shallow depression runs from the outer ocelli to the eyes. Clypeus broadly convex, yellow; mandibles yellow, piceous-red at the apex, eyes hairy. Antennæ densely covered with silvery pubescence; the scape yellow, the third and fourth joints equal. Thorax smooth, shining, covered with soft pale pubescence; the pronotum transverse, rounded at the sides. Mesopleural furrow crenulated; medium segment at the base, with short stout keels, bounded by a narrow keel which proceeds to the apex, the sides of the segment being also keeled. Metapleuræ excavated at the base, smooth and shining. There is a small oblong fovea on the metapleuræ behind, a line on the pronotum, tegulæ, tubercles, a large mark below them, a mark on either side of the scutellum, a line on its hinder edge at the sides behind, and a narrower line in the same place on the métanotum, pale yellow. Abdomen shining, smooth; a small mark on the side of the first segment, a large one on the second, none on the third, a large broad one on the fourth, and a smaller one on the fifth, pale pellow; pygidium reddish at the apex, densely covered with soft pale pubescence and punctured. Length 7 mm.



OXYBELUS ARGENTEOLINEATUS, *sp. nov.*

Head strongly punctured, closely covered (the vertex sparsely) with a white silvery pubescence; the mandibles yellow at the base; deeply furrowed. Front ocellus in a shallow depression; an elongated fovea on the outer side of the posterior near the eyes. Antennæ black, shortly pilose, stout; the third joint distinctly longer than the fourth. Thorax close punctured, the pleuræ almost rugosely; the pronotum above, the tubercles and metanotum yellow. Pronotum above transverse, projecting, the sides obliquely curved. Metanotum without laminæ. Median segment short, semi-perpendicular; the base with short stout keels, becoming longer towards the middle, margined, and with two keels which run down to the apex of the segment, converging as they do so. Metapleuræ coarsely shagreened, the base hollowed, shining, and impunctate. Abdomen punctured; the segments lined densely with silvery pubescence, which becomes narrowed in the centre; pygidial area densely covered with stiff rufosulvous depressed pubescence. Legs densely covered with silvery pubescence; the tibiæ more or less lined with black behind; the short stumpy teeth on the hind tibiæ rufous. The recurrent nervure is received in the middle of the radial cellule, and is slightly curved and oblique. Length 6 mm.

OXYBELUS LEWISI, *sp. nov.*

Black, densely covered with a short silvery pubescence; the punctuation close, moderately strong; the mandibles, tubercles, tegulæ in part, two elongated marks on the scutellum, metanotum, a line running from the scutellum and metanotum to the wings, a lateral mark on abdominal segments 1—5 and the knees, tibiæ and tarsi in front, yellow, wings clear hyaline, the nervures pale fulvous. Ocelli in a curve; the hinder separated from the eyes by the length of

the third antennal joint ; eyes rounded inwardly, converging beneath ; the pubescence on the head in front long and dense ; the punctuation finely rugose. Scutellum above flat, laterally obliquely margined ; the apex of metanotum rounded, without laminæ. Median segment above laterally obliquely, in the centre below, transversely striolate, the striations wide apart and stout ; shining, impunctate, metapleuræ finely rugose, obliquely striated ; the spine at the base of the median segment stout, acute. Abdomen shining, aciculate ; densely pilose ; pygidial area acutely pointed, the pubescence fulvous at the apex, dense ; the base of the petiole depressed, striolated. The recurrent nervure is received somewhat beyond the basal third of the radial cellule. Length 6 mm.

*Hab.* Nugata, Ceylon (*George Lewis*).

## Explanation of Plates.

### PLATE IX.

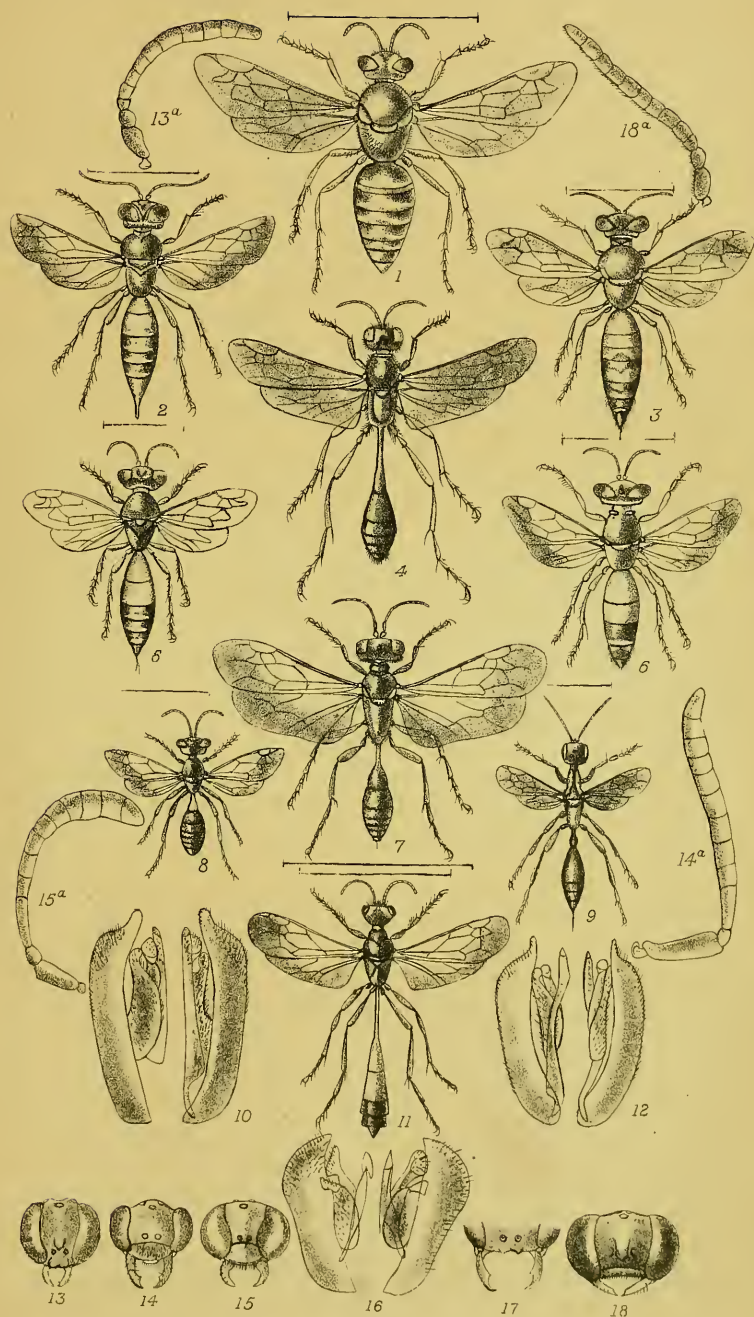
FIG.

1. *Tachytes Rothneyi*, Cam.
2. *Notogonia luteipennis*, Cam.
3. *Tachytes tarsatus*, Smith.
4. *Ammophila violaceipennis*, Cam.
5. *Notogonia erythropoda*, Cam.
6. *Gastrosericus Wroughtoni*, Cam.
7. *Sphex xanthoptera*, Cam.
8. *Piagetia fasciatipennis*, Cam.
9. *Rhinopsis ruficornis*.
10. *Sphex diabolicus*, Sm. ♂ organs.
11. *Ammophila tyrannica*, Cam.
12. *Sphex aurulenta*, ♂ organs.
13. *Nysson rugosus*, head, 13<sup>a</sup> antenna.
14. *Gorytes orientalis*, head, 14<sup>a</sup> antenna.
15. *Do. amatorius*, head, 15<sup>a</sup> antenna.
16. *Ampulex compressa*, Fab.
17. *Piagetia ruficornis*, Cam. face.
18. *Nysson erythropoda*, head, 18<sup>a</sup> antenna.

## PLATE X.

FIG.

1. *Stizus reversus*, antenna ♂.
  2. *Cerceris viligans*, head, (a) apical ventral, (b) apical dorsal segment.
  3. *C. rothneyi*, head, (a) apical ventral, (b) dorsal segment.
  4. *C. instabilis*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  5. *C. pulchra*, head, (a) apical ventral, (b) dorsal segment.
  7. *C. tristis*, head, (a) apical dorsal, (b) ventral segment.
  - 7\*. *C. vischnu*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  8. *C. novaræ*, head, (a) apical ventral, (b) dorsal segment.
  9. *C. Wroughtoni*, head, (a) apical ventral, (b) dorsal segment.
  10. *C. dentata*, mesosternum.
  11. *C. sulphurea*, head, (a) apical ventral, (b) dorsal segment.
  12. *C. tetradonta*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  13. *C. pentadonta*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  14. *C. orientalis*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  15. *C. nebulosa*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  16. *C. humbertiana*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  17. *C. hilaris*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  18. *C. flavopicta*, head and clypeus, (a) apical ventral, (b) dorsal segment.
  19. *Philanthus depredator*, head, (a) apical ventral, (b) dorsal segment.
  20. *Crabro odontophora*, (a) fore leg, (b) hind leg.
  21. *Oxybelus robustus*, squama.
  22. *Do. canescens*, squama.
  23. *Do. fulvopilosus*, squama.
  24. *Do. squamosus*, squama.
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Constance Hoskyns-Abrahall Lith. ad Nat.

Imp. J. Galloway & Son, Man.



